AMENDMENTS TO THE CLAIMS

The listing of claims below replaces all prior versions of claims in the application.

Listing of Claims:

1. (Currently amended): An automatic door apparatus comprising:

a pair of doors opening and closing by moving on a same vertical plane;

a pair of moving ~~means for~~ <u>device</u> moving the pair of doors individually;

~~control means for~~ <u>controller</u> controlling the pair of moving [[means]] <u>device</u>;

a pair of two-dimensional image sensors for detecting a moving object at both sides of the pair of doors; and

a pair of spare sensors for detecting a moving object at both sides of the pair of doors,

wherein the <u>controller</u> ~~control means~~ includes:

<u>a</u> moving status ~~calculating means for~~ <u>calculator</u> calculating a position and a moving direction of a moving object by image processing of outputs of the two-dimensional image sensors;

<u>an</u> opening degree ~~calculating means~~ <u>calculator</u>

~~for~~ predicting a passing position of the moving object on the vertical plane on the basis of the position and moving direction of the moving object calculated by the moving status ~~calculating means~~ <u>calculator</u> and calculating a target opening degree of each of the doors on the basis of the predicted passing position when the moving object approaches, and

~~for~~ determining the target opening degrees of the doors in fully closed state when the

moving object moves away;

a first move command ~~means for~~ unit outputting move command signals to the

pair of moving [[means]] device so that the doors may be opened to the calculated target

opening degrees; and

a second move command ~~means for~~ unit outputting move command signals to the pair of

moving [[means]] device to open ~~or close~~ the doors fully immediately or after the moving

object is detected by the spare sensor ~~in accordance with outputs from the spare sensors in the~~

~~event of image processing failure of~~ if the moving status calculator cannot calculate the position and

moving direction of the moving object due to individual recognition failure of the moving object

in the crowd although the moving status calculator can perform the image processing ~~calculating~~

~~means~~.

2.   (Canceled)

3.   (Currently amended): An automatic door apparatus according to claim 1 [[or 2]],

wherein the ~~control means~~ controller selects a largest opening degree, as the target opening degree of

the door, from plural target opening degrees corresponding to plural moving objects calculated

by the opening degree ~~calculating means~~ calculator.

4.   (Currently amended): An automatic door apparatus according to claim 1 [[or 2]],

wherein the moving status ~~calculating means~~ calculator has an opening speed ~~calculating means for~~

calculator calculating a moving speed of each moving object and calculating an opening speed of

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the doors on the basis of the fastest moving speed among the calculated moving speeds, and

the first move command [[means]] unit outputs a move command signal so as to open the doors at

the opening speed.

5.   (Currently amended): An automatic door apparatus according to claim 1 [[or 2]],

wherein a zone detected by the two-dimensional image sensor includes a first zone remote from the

doors, and a second zone adjacent to the first zone and closer to the doors than the first zone,

        the moving status ~~calculating means~~ calculator calculates the moving status of the moving

object on the basis of the motion of the moving object in the first zone, and

        the opening degree ~~calculating means~~ calculator calculates the target opening degree when

the moving object moves from the first zone to the second zone, and the first move command

[[means]] unit outputs the move command signal.

6.   (Currently amended): An automatic door apparatus according to claim 1 [[or 2]],

wherein a zone detected by the two-dimensional image sensor includes a first zone remote from the

doors, and a second zone adjacent to the first zone and closer to the doors than the first zone, and

the opening status ~~calculating means~~ calculator sets the target opening degree in full closing when the

moving object moves from the second zone to the first zone, and the first move command

[[means]] unit outputs the move command signal.